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16 Aug 87

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 90-307

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF PORTOLA
PORTOLA CLASS III LANDFILL
PLUMAS COUNTY

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32-AA-0007

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The City of Portola (hereafter Discharger) submitted a Site Review and Development Plan, dated 1 March 1985; a Report of Disposal Site Information, dated 9 October 1986; a Facility Operations Plan and Operating Permit, dated 7 July 1987; a Site Evaluation Report, a Waste Characterization Report, and a Water Quality Monitoring Plan, dated 26 October 1987; a Proposed Financial Assurance for Closure and Post-Closure Maintenance Plan; an Air Monitoring Solid Waste Disposal Site Report, dated 10 May 1989; and a completed Solid Waste Water Assessment Report (SWAT), dated 14 May 1990.
2. The Discharger requests revised waste discharge requirements (WDRs) for reclassification of an existing Class II-2 landfill to a Class III landfill waste management unit (WMU). The WMU is currently regulated by WDR Order No. 74-323 which is no longer in conformance with the California Code of Regulations (CCR), Title 23, Division 3, Chapter 15 (hereafter Chapter 15).
3. The 20-acre disposal site, comprised of Assessor's Parcel Nos. 025-10-023 and 025-10-026, is owned and operated by the Discharger. Waste disposal activities are currently limited to five acres of the site. The site is 1.5 miles northeast of the City of Portola and north of State Highway 70 in the northeast quadrant of Section 30, T23N, R14E, MDB&M, as shown on Attachment "A" which is incorporated herein and made part of this Order.
4. The disposal site consists of a landfill with 10-foot-deep cells for disposal of household refuse.
5. This is an existing facility, first operated by Plumas County as an open burn dump in 1968. In 1974, Plumas County, in agreement with the City of Portola, began operating the site as a sanitary landfill. On 27 May 1978, the City of Portola took over the operation of the landfill. The current disposal area has a total capacity of approximately 131,000 cubic yards, of which approximately 50,000 cubic yards remain. The existing landfill is expected to reach capacity by 1998.
6. The Discharger plans to continue short-term stockpiling of car bodies, large metal items, white goods, and tires. Salvage operators remove the car bodies, metal, white goods, and tires for recycling off-site.

WASTES AND THEIR CLASSIFICATION

7. The Discharger proposes to continue to discharge 'municipal solid waste' and 'inert waste' for disposal in a Class III landfill, as shown on Attachment "B". These wastes have been classified as 'nonhazardous solid waste' or 'inert waste', respectively, using the criteria set forth in Chapter 15. The site currently receives approximately 14 cubic yards (3.56 tons) of refuse daily. The area served by the landfill is the City of Portola exclusively.

DESCRIPTION OF THE SITE

8. The facility is 1.5 miles northeast of the City of Portola and north of State Highway 70. The site is on the southwest side of a mountain and has a surface slope to the southwest at a grade of approximately eight percent. Site elevations range from 5,290 to 5,105 feet mean sea level (MSL).
9. Land within 1,000 feet to the north, east, and west of the site is vacant forestland in State Game Refuge Area I-V. To the south of the site is a "sand pit" owned by Plumas County, and 800 feet to the southwest is a five-acre parcel with a single-family home on it. There are approximately 21 other single-family dwellings over 1,000 feet to the southwest of the site.
10. The site is uniformly underlain by bedrock composed of quartz diorite. The quartz diorite is of low hardness, friable to moderately strong, and is deeply weathered near the surface. The quartz diorite becomes progressively less weathered with depth, grading into fresh bedrock between 70 and 100 feet below the original surface. Ground water within the weathered quartz diorite will occur as flow in a porous media. The deeply weathered bedrock exhibits an average permeability rate of 6.22×10^{-5} cm/sec and has an average hydraulic conductivity of 2.1×10^{-4} cm/sec.
11. Several fault traces have been identified north, east, and west of the site. The faults offset predominately Mesozoic-age grandiorites and Tertiary-age intrusive andesites. The closest major fault is the Hot Springs Fault which is 0.6 mile east of the site. None of the faults are known Holocene-age and are therefore considered inactive. No known faults transect the site. The site is not within an area of rapid geologic change.
12. The water-bearing formation ranges from 15 to 30 feet (5,090 to 5,075 feet MSL) below the base of the landfill and is confined or semi-confined within the weathered bedrock material. The calculated hydraulic conductivity is 0.59 feet per day with a south-southeast hydraulic gradient. The average linear flow velocity was calculated as ranging from 9.8×10^{-6} feet/second to 4.9×10^{-6}

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feet/second. The quality of the upgradient water is excellent with total dissolved solids (TDS) ranging between 93 and 191 mg/l. There is no indication of a perched zone below the site.

13. An old monitoring well 160 feet west of the entrance was installed in 1976 as required by Monitoring and Reporting Program No. 74-323. The well has been sampled periodically since 20 February 1976. Due to the unknown construction characteristics of this well, it is not appropriate to continue to use it as a monitoring well. Analyses of ground water from the old well show physical and chemical characteristics which may be indicative of leachate entering the ground water. To clarify the impacts on downgradient users, there are three domestic water wells within 1,200 feet southwest of the site which will be added to the monitoring program.
14. The ground water monitoring system currently consists of one upgradient well designated "B-1" and two downgradient wells designated "B-2" and "B-3", as shown on Attachment "B". The wells were installed on 24 November 1987 as part of the required SWAT investigation. The SWAT report indicates there was no off-site migration of hazardous waste; however, there was evidence of leachate from decomposition of residual nonhazardous waste found in "B-2" and "B-3".
15. The beneficial uses of ground water are domestic and agricultural supply.
16. The site receives an average of 22 inches of precipitation per year as measured at Portola between the years 1940 and 1973. The mean evaporation for this facility is 45 inches per year. Based on these data, the annual net evaporation at the site is 23 inches. Much of the precipitation falls during the winter months as snow.
17. The 1,000-year, 24-hour precipitation event for the facility is 4.99 inches and the 100-year, 24-hour precipitation event is 3.95 inches, as calculated from information in Department of Water Resources Bulletin No. 195, "Rainfall Analysis for Drainage Design".
18. The facility is not within a 100-year floodplain.
19. Surface drainage is to the Middle Fork Feather River. The beneficial uses of the Middle Fork Feather River are municipal supply; recreation; esthetic enjoyment; freshwater replenishment; and preservation and enhancement of fish, wildlife, and other aquatic resources.
20. The Wild and Scenic Rivers Act (USC 1271-1287) of 2 October 1968 designated the Middle Fork Feather River as a component of the National System of Wild and Scenic Rivers. The drainage from the landfill enters that portion designated as Recreational River Zone.

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21. The Discharger's data demonstrate the site does not meet the siting criteria in Chapter 15. The natural geologic material between the base of the Class III landfill unit and ground water does not prevent the impairment of beneficial uses of ground water from the discharge of 'nonhazardous solid waste' to the landfill unit. Therefore, any lateral expansion of the landfill must be lined with a minimum of 12 inches of compacted clay material or an equivalent engineered liner. The liner must be overlain by a leachate collection and removal system (LCRS).

CERTIFICATION

22. The landfill has not been certified as being in compliance with siting requirements of Chapter 15.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) CONSIDERATIONS

23. The action to revise the WDRs for this existing landfill is exempt from the provisions of CEQA (Public Resources Code Section 21000, et seq.), in accordance with Title 14, Section 15301, CCR.

OTHER LEGAL REFERENCES

24. The Board has adopted a Water Quality Control Plan, 2nd Edition, for the Sacramento River Basin (5A) which contains water quality objectives for all waters of the Basin. This Order implements the water quality objectives stated in that Plan. Furthermore, this Order implements the prescriptive standards and performance goals of Chapter 15, effective 27 November 1984.
25. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
26. The Board has notified the Discharger and interested agencies and persons of its intention to revise the WDRs for this facility.
27. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

IT IS HEREBY ORDERED that Order No. 74-323 be rescinded and the City of Portola, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

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A. Prohibitions

1. The discharge of 'hazardous waste' and 'designated waste' at this site is prohibited. For the purposes of this Order, the terms 'hazardous waste' and 'designated waste' are as defined in Chapter 15.
2. The discharge of liquid or semisolid waste (i.e., waste containing less than 50-percent solids) at this site is prohibited.
3. The discharge at this site of solid waste containing free liquid or moisture in excess of the waste's moisture-holding capacity is prohibited.
4. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or ground water is prohibited.
5. The discharge of waste to ponded water from any source is prohibited.
6. The discharge of waste within 100 feet of surface waters is prohibited.
7. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which, in turn,
 - a. require a higher level of containment than provided by the unit,
 - b. are 'restricted hazardous wastes', or
 - c. impair the integrity of containment structures,is prohibited.
8. The use of additional capacity through lateral expansion of the landfill, beyond that described in Finding No. 5 above, before placement of an approved liner and LCRS is prohibited.

B. Discharge Specifications

GENERAL SPECIFICATIONS

1. Wastes shall be discharged only into WMUs specifically designed for their containment and/or treatment, as stated in Finding No. 3 of this Order and shown on Attachment "B".

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2. Wastes shall not be discharged below 5,090 feet MSL. A minimum separation of 15 feet shall be maintained between wastes or leachates and the highest anticipated elevation of underlying ground water, including the capillary fringe.
3. Prior to the discharge of waste to a WMU, all wells within 500 feet of the unit shall have sanitary seals which meet the requirements of the Plumas County Health Department or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Board and to the State Department of Water Resources.
4. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control.

General WMU Construction

5. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the WMUs.
6. Clay liners and landfill caps shall have a maximum hydraulic conductivity of 1×10^{-6} centimeters/second and a minimum relative compaction of 90 percent. At least 30 percent of the material, by weight, shall pass a No. 200 U.S. Standard sieve with no particles larger than one inch. The materials shall be fine-grained soils with a significant clay content and without organic matter in the "SC" (clayey sand), "CL" (clay, sandy, or silty clay), or "CH" (clay, sandy clay) classes of the Unified Soil Classification system. Hydraulic conductivities of liner materials shall be determined by laboratory tests using solutions with similar properties as the fluids that will be contained. Hydraulic conductivities of cap materials shall be determined by laboratory tests using water. Hydraulic conductivities determined through laboratory methods shall be confirmed by field testing of the finished liner using a method approved by the Regional Board. Construction methods and quality assurance procedures shall be sufficient to ensure that all parts of the liner and cap meet the hydraulic conductivity and compaction requirements.

A Construction Quality Assurance (CQA) Plan shall be submitted by the Discharger for approval by the Executive Officer prior to placement of any earthen or synthetic liners or covers pursuant to Chapter 15. The CQA Plan shall be implemented under the direct supervision of a California registered civil engineer or a certified engineering geologist. The results of all testing on liner or cover placement, regardless of whether the test passed or failed, shall be submitted to the Board.

7. Materials used to construct LCRSs shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the life of the WMUs.
8. LCRSs shall be designed, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the WMU and to prevent the buildup of hydraulic head on the underlying liner or underlying natural geologic materials of low hydraulic conductivity at any time.
9. If the Discharger proposes an engineered alternative to the construction or prescriptive requirements of Chapter 15, then the Discharger must demonstrate that the construction or prescriptive standard is not feasible and the proposed engineered alternative is consistent with the performance goal addressed by the particular construction or prescriptive standard and affords equivalent protection against water quality impairment.

Supervision And Certification Of Design And Construction

10. All containment structures shall be designed, constructed, retrofitted, or closed under the direct supervision of a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards and performance goals of Chapter 15 prior to waste discharge.

Water Quality Protection Standards

11. The concentrations of indicator parameters or waste constituents in waters passing through the points of compliance shall not exceed the "water quality protection standards" established pursuant to and enumerated in Monitoring and Reporting Program No. 90-307, which is attached to and made part of this Order.

Protection From Storm Events

12. The site shall be designed, constructed, and operated to prevent inundation or washout due to floods with a 100-year return period. The Class III landfill shall be constructed and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundating erosion, slope failure, washout, and overtopping under 100-year, 24-hour precipitation conditions.
13. Precipitation and drainage control systems shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff and 100-year, 24-hour precipitation conditions, as described in Finding No. 17 above.

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14. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.
15. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding at the site.

LANDFILL SPECIFICATIONS

16. During the rainy season, when precipitation can be expected, a minimum one-foot thickness of low-permeability cover shall be maintained over all but the active disposal area of the landfill. The active disposal area shall be confined to the smallest area practicable based on the anticipated quantity of waste discharge and other disposal site operations.
17. Methane and other landfill gases shall be adequately vented, removed from the landfill unit, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.
18. The landfill unit shall have a clay liner with a minimum thickness of 12 inches or an equivalent engineered liner, and an LCRS immediately above the liner which is designed and operated to prevent the development of one foot or more of hydraulic head on the liner at any time.

WMU CLOSURE SPECIFICATIONS

19. The closure of each WMU shall be under the direct supervision of a California registered civil engineer or certified engineering geologist.
20. Closed WMUs shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.

Landfill Closure

21. At closure, each landfill unit shall receive a final cover which is designed and constructed to function with minimum maintenance. In accordance with Section 2581 of Chapter 15, the final landfill cap shall have a structural cross-section with the following minimum components:

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- a. A two-foot-thick foundation layer compacted to the maximum density obtainable at optimum moisture content using methods that are in accordance with accepted civil engineering practice. The foundation layer may contain waste materials.
 - b. A one-foot-thick clay liner compacted to attain a permeability of 1×10^{-6} centimeters/second or less shall be placed over the foundation layer.
 - c. A one-foot-thick vegetative soil layer will be placed over the clay layer.
22. An engineered equivalent final landfill cap can be proposed for approval by the Board pursuant to Subsection 2510(b) and (c) of Chapter 15 in place of the above minimum components.
 23. Vegetation shall be planted and maintained over each closed landfill unit. Vegetation shall be selected to require a minimum of irrigation and maintenance, and shall have a rooting depth not in excess of the vegetative layer thickness.
 24. Closed landfill units shall be graded to at least a three-percent grade and maintained to prevent ponding.
 25. Areas with slopes greater than 10 percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.

C. Provisions

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
3. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the WMUs. The Discharger shall also notify the Board of any material change in the character, location, or volume of the waste discharge and of any proposed expansions or closure plans. This notification shall be given **180 days** prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these WDRs.

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4. The Discharger shall comply with Monitoring and Reporting Program No. 90-307, which is attached to and made part of this Order.
5. The Discharger shall maintain legible records of the volume and type of each waste discharged at each WMU and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.
6. Within **180 days** of the adoption of these requirements, the Discharger shall submit to the Board and to the Department of Health Services for approval a report describing a periodic load-checking program to be implemented by the Discharger to ensure that 'hazardous wastes' and 'designated wastes' are not discharged to the Class III landfill.
7. If the Discharger, through a detection monitoring program, or the Board finds there is a statistically significant increase in indicator parameters or waste constituents over the water quality protection standards (established pursuant to Monitoring and Reporting Program No. 90-307) at or beyond the points of compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within **7 days** and shall immediately resample for the constituent(s) or parameter(s) at the point where the standard was exceeded. Within **90 days**, the Discharger shall submit to the Board the results of the resampling and either:
 - a. a report demonstrating the water quality protection standard was not, in fact, exceeded; or
 - b. an amended Report of Waste Discharge for the establishment of a verification monitoring program, per Section 2557 of Chapter 15, which is designed to verify that water quality protection standards have been exceeded and to determine the horizontal and vertical extent of pollution.
8. If the Discharger, through a verification monitoring program, or the Board verifies that water quality protection standards have been exceeded at or beyond the points of compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within **7 days**. Within **180 days**,

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the Discharger shall submit to the Board an amended Report of Waste Discharge for the establishment of a corrective action program, per Section 2558 of Chapter 15, which is designed to achieve compliance with the water quality protection standards.

9. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with Monitoring and Reporting Program No. 90-307, as required by Sections 13750 through 13755 of the California Water Code.
10. The Discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.
11. The Discharger shall submit to the Board, for approval, a preliminary closure and post-closure maintenance plan not later than the time of application for each solid waste facility's permit review pursuant to Title 14, CCR, Chapter 5, Article 3.1, Section 18213(b). The closure and post-closure maintenance plan shall describe the methods and control to be used to assure protection of the quality of surface and ground waters of the area during final operations and during any subsequent use of the land. The plan must include: 1) an estimate of closure and post-closure maintenance costs; 2) a proposal for a trust fund or equivalent financial arrangement to finance closure and post-closure; and 3) the amount to be deposited in the trust fund or equivalent financial arrangement each year. This plan shall be prepared by or under the supervision of a California registered civil engineer or certified engineering geologist, updated annually, and submitted to the Board by the 15th day of January of each year.
12. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor ground water, leachate from the landfill unit(s), the vadose zone, and surface waters per Monitoring and Reporting Program No. 90-307 throughout the post-closure maintenance period.
13. The post-closure maintenance period shall continue until the Board determines that remaining wastes in all landfill units will not threaten water quality.
14. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated 1 July 1990, which are hereby incorporated into this Order.

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15. The owner of the waste management facility shall have the continuing responsibility to assure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the landfill units and during subsequent use of the property for other purposes.
16. In the event of any change in ownership of this waste management facility, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.
17. The Discharger shall comply with all applicable provisions of Chapter 15 that are not specifically referred to in this Order.
18. The Board will review this Order periodically and will revise these requirements when necessary.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 2 November 1990.



WILLIAM H. CROOKS, Executive Officer

GDD:gln

Amended 11/2/90

Attachments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 90-307

FOR
CITY OF PORTOLA
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NONHAZARDOUS SOLID WASTE MONITORING

The Discharger shall monitor all wastes discharged to the Class III landfill unit on a monthly basis and report to the Board as follows:

<u>Parameter</u>	<u>Report in Units of</u>	<u>Frequency of Reporting</u>
Quantity Discharged	cubic yards	Quarterly
Type of Material Discharged	--	Quarterly
Source(s) of Material Discharged	--	Quarterly
Minimum Elevation of Discharge	feet, MSL	Quarterly
Capacity of Landfill Unit	percent	Annually

GROUND WATER MONITORING

The following detection monitoring program shall be implemented at the facility to determine both background and downgradient concentrations of indicator parameters. The monitoring network shall consist of background monitoring well "B-1" and downgradient monitoring wells "B-2" and "B-3", and shall constitute the "points of compliance" with respect to ground water. The locations of these wells are shown on Attachment "B". The following shall be measured when sampling ground water:

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling Frequency</u>
Chemical Oxygen Demand	mg/l	Quarterly
Specific Conductance	umhos/cm	Quarterly
pH	pH units	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Dissolved Organic Carbon	mg/l	Quarterly
Chlorides	mg/l	Quarterly
Sulfates	mg/l	Quarterly
Dissolved Iron ¹	mg/l	Quarterly
Total Kjeldahl Nitrogen	mg/l	Quarterly
Sulfides (including H ₂ S)	presence or absence	Quarterly
Nitrates	mg/l	Quarterly
Calcium	mg/l	Quarterly
Magnesium	mg/l	Quarterly

¹ Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICAP) may be used for analysis of these constituents only.

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(Continued)

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling Frequency</u>
Sodium	mg/l	Quarterly
Iron	mg/l	Quarterly
Potassium	mg/l	Quarterly
Alkalinity (Bicarbonate and Carbonate)	mg/l	Quarterly
Turbidity	NTUs	Quarterly
Volatile Organics ²	µg/l	Annually
Aluminum ¹	mg/l	Annually
Arsenic	mg/l	Annually
Cadmium ¹	mg/l	Annually
Total Chromium (III+VI) ¹	mg/l	Annually
Chromium (VI)	mg/l	Annually
Copper ¹	mg/l	Annually
Lead ¹	mg/l	Annually
Manganese ¹	mg/l	Annually
Mercury	mg/l	Annually
Nickel ¹	mg/l	Annually
Selenium	mg/l	Annually
Silver ¹	mg/l	Annually
Thallium ¹	mg/l	Annually
Zinc ¹	mg/l	Annually

¹ Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICAP) may be used for analysis of these constituents only.

² EPA Methods 601 and 602, or EPA Method 624 shall be used. All peaks shall be reported.

The ground water surface elevation (in feet and hundredths, MSL) in all wells shall be measured on a monthly basis and used to determine the velocity and direction(s) of ground water flow.

ADJACENT PROPERTY GROUND WATER MONITORING

Domestic water wells on adjacent property within 1,500 feet of the landfill are owned by Jay and Ruth Fair (Lot 5), Charles and Elizabeth Goodhard (Lot 11), and Donald and Blanche Odstrom (Lot 12). These wells are possibly downgradient of the landfill and may be impacted by a discharge from the waste pile. Samples from these wells shall be analyzed for parameters and constituents listed under "GROUND WATER MONITORING" above at the indicated frequencies.

WATER QUALITY PROTECTION STANDARDS

Water quality protection standards for ground water will be established from analyses of samples from background monitoring well "B-1" as listed under "GROUND WATER MONITORING" above. Data from these analyses shall be reported to the Board by **1 August 1992** for use by the Board in determining water quality protection standards for ground water.

If subsequent water sampling indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of these water quality protection standards.

Statistical Procedures for Determining Significant Increases

The significance of increases in indicator parameters and waste constituents over water quality protection standards shall be established through the use of appropriate statistical tests and procedures described in the EPA document entitled *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities*, published in April 1989. Where the data allow, the one-way parametric Analysis of Variance (ANOVA) test is preferred. Other suitable statistical tests may be used with the approval of the Executive Officer.

REPORTING

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements.

Quarterly monitoring reports shall be submitted to the Board by the **15th day** of the following month, the month in which the samples were taken. Quarterly, semiannually, and yearly monitoring reports shall be submitted to the Board by the **15th day** of the month following the calendar quarter in which the samples were taken or observations made.

The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Board.

A report shall be submitted to the Board by **30 January** of each year containing both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall include a discussion of compliance with the WDRs.

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The Discharger shall implement the above monitoring program on the effective date of this Order.

Ordered by William H. Crooks
WILLIAM H. CROOKS, Executive Officer

2 November 1990

(Date)

GDD:gln 9/10/90

INFORMATION SHEET

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PORTOLA CLASS III LANDFILL
PLUMAS COUNTY

The City of Portola operates a landfill 1.5 miles northeast of the City of Portola on Meadow Way Road.

The landfill was first operated by Plumas County as a burn dump in 1968. In 1973, the County began operating the site as a sanitary landfill. On 27 May 1978, the City of Portola, who owned the site, took over operation and full responsibility of the site. The site has a total capacity of 131,000 cubic yards and a remaining capacity estimated at 50,000 cubic yards. The Discharger plans to operate the site for the next 20 years; however, the estimated remaining life of the landfill is 8 years.

The landfill is situated on a southwesterly-trending side slope of a ridge with a grade of approximately eight percent. The site is situated on weathered quartz diorite bedrock. There are no surface soils on-site, only weathered bedrock. Ground water is 15 to 30 feet below the lowest elevation of the existing fill and is of excellent quality. Ground water movement is at the interface of deeply weathered bedrock and competent and unweathered rock, and is to the south-southeast with a hydraulic conductivity of 0.59 feet per day.

The landfill currently accepts 10 cubic yards of 'nonhazardous solid waste' and 'inert waste' daily.

A geologic study completed in May 1990 found the site to be on weathered quartz diorite. This allows infiltration of rainfall through the cover material and through the refuse, thereby offering the potential for generation of leachate. This condition does not assure protection of the high-quality ground water found immediately below the site.

The current ground water monitoring system consists of one upgradient and two downgradient wells. The geologic study completed in May 1990 reveals the direction of ground water flow is south-southeast as calculated using the three-point solution methodology. The monitoring wells appear to be in the most appropriate position to detect leakage.

The SWAT report, dated 14 May 1990, indicates there is no off-site migration of hazardous waste. However, the report does indicate that concentrations of constituents in the downgradient wells exceed those in the upgradient well. This is an indication that ground water may be impacted from leachate generated in the waste pile. There are three domestic wells within 1,500 feet to the southwest of the site. These wells will be sampled to evaluate the extent of the off-site migration of leachate.

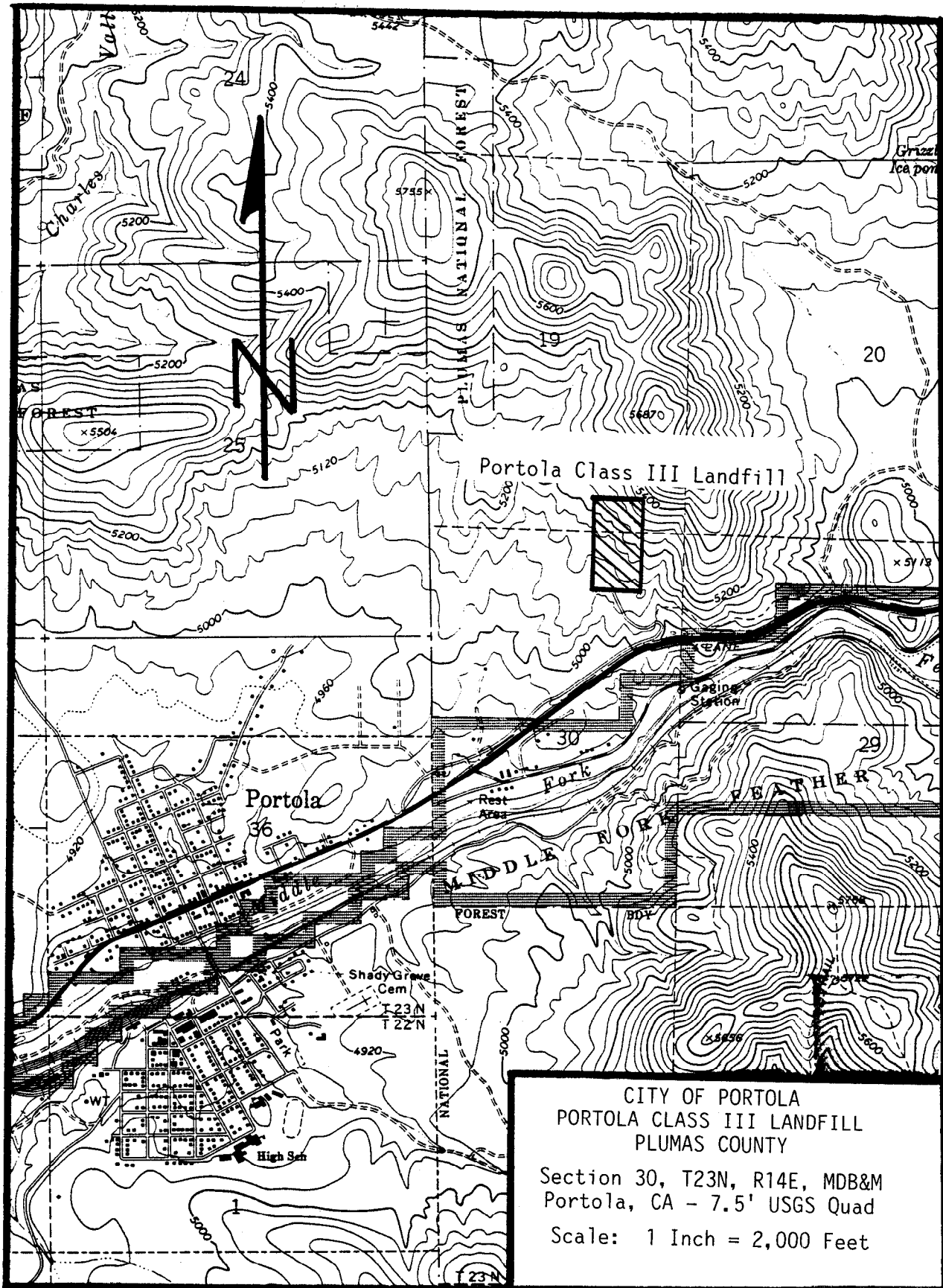
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The average annual rainfall at the site is approximately 22 inches while the mean annual evaporation is approximately 45 inches, resulting in a net evaporation of 23 inches per year.

GDD:gln 9/10/90

ATTACHMENT 'A'



ATTACHMENT 'B'

